CORRESPONDENCE.

To the Editor of "SCIENCE."

It seems to me that Pres. Gaines' objection to the accepted theory of vision (see SCIENCE of Aug. 6, p. 370) may easily be answered.

It is universally agreed that vision is a sensation produced by ethereal undulations, and that these undulations are induced by molecular motion in a luminous body. Each point of a luminous body is a radiant point, that is, emits rays of light in every direction, and it is by some of these rays of ethereal undulations, either directly from the luminous point or refracted by, or reflected from, some non-luminous body, that all impressions of vision are made. Hence, all non-luminous objects are manifested to vision by reflected light, but reflected light is also *radiant* light; that is, reflected ethereal waves radiate from every point of non-luminous objects manifested to vision. These waves have fallen upon the reflecting surface (not necessarily a minimum surface or front) from various directions, many of them reflected from other non-luminous objects, and, the angle of reflexion being the same as the angle of incidence, they necessarily *radiate* from the object; and by their difference of intensity, that is, by the different capacities of contiguous surfaces to reflect rays in a particular direction, we receive different impressions from the different parts of the object, and hence assign to the object peculiarities corresponding to the peculiarities of the sensations produced. Hence, though I admit that we become cognizant of objects by radiant light, I contend that in all cases where the object is not self-luminous, the rays that impress us are reflected rays produced by some luminous body of which we learn nothing from these reflected rays.

J. E. HENDRICKS.

DES MOINES.

ANOTHER CONFIRMATION OF PREDICTION.

BY PLINY EARLE CHASE, LL.D.

On the 4th of October, 1878, I presented a communication to the American Philosophical Society,* in which I showed that the position of Watson's first intra-Mercurial planet, as computed by Gaillot and Monchez, represented the third intra-Mercurial term of my harmonic series. At the last meeting of the British Association, Professor Balfour Stewart read a paper in which he gave indications of sun spot disturbances by a planet, revolving in 24.011 days, and consequently having a semi-axis major of .163. This confirmation, both of my own prediction,† and of the calculations of the French astronomers, is the more interesting, because the first confirmation of my series was contained in a communication which was made to the Royal Society by Messrs. De la Rue, Stewart and Loewy, forty-one days after I had announced the series to the Philosophical Society, and published it in the New York Tribune.‡ The accordances are as follows:

PREDICTION.	CONFIRMATION.
1st interior harmonic term .267.	De la Rue, S. & L. .267
3d " " " .165.	Gaillot & Monchez .164
	Stewart - - .163

*Proc. A. P. S., xviii., 34-6.
†Ib., xiii., 238.
‡Ib., p. 470.

METEOROLOGICAL REPORT FOR NEW YORK CITY FOR THE WEEK ENDING OCT. 29, 1881.

Latitude 40° 45′ 58″ N.; Longitude 73° 57′ 58″ W.; height of instruments above the ground, 53 feet; above the sea, 97 feet; by self-recording instruments.

OCTOBER.	BAROMETER. MEAN FOR THE DAY. Reduced to Freezing.	BAROMETER. MAXIMUM. Reduced to Freezing.	BAROMETER. MAXIMUM. Time.	BAROMETER. MINIMUM. Reduced to Freezing.	BAROMETER. MINIMUM. Time.	THERMOMETERS. MEAN. Dry Bulb.	THERMOMETERS. MEAN. Wet Bulb.	THERMOMETERS. MAXIMUM. Dry Bulb.	THERMOMETERS. MAXIMUM. Time.	THERMOMETERS. MAXIMUM. Wet Bulb.	THERMOMETERS. MAXIMUM. Time.	THERMOMETERS. MINIMUM. Dry Bulb.	THERMOMETERS. MINIMUM. Time.	THERMOMETERS. MINIMUM. Wet Bulb.	THERMOMETERS. MINIMUM. Time.	MAXI'M In Sun.
Sunday, 23	29.989	30.104	0 a. m.	29.848	12 p. m.	60.6	56.3	69	4 p. m.	60	4 p. m.	51	7 a. m.	51	7 a. m.	125.
Monday, 24	29.640	29.848	0 a. m.	29.508	12 p. m.	57.3	56.6	61	0 a. m.	58	0 a. m.	54	12 p. m.	54	12 p. m.	69.
Tuesday, 25	29.415	29.503	0 a. m.	29.338	2 p. m.	57.0	54.0	64	4 p. m.	60	4 p. m.	52	5 a. m.	52	5 a. m.	108.
Wednesday, 26	29.810	29.982	12 p. m.	29.500	0 a. m.	45.3	40.7	55	0 a. m.	50	0 a. m.	38	12 p. m.	37	12 p. m.	110.
Thursday, 27	30.015	30.058	9 a. m.	29.982	0 a. m.	48.6	43.0	59	4 p. m.	49	4 p. m.	34	6 a. m.	34	6 a. m.	109.
Friday, 28	30.113	30.136	9 a. m.	30.012	0 a. m.	51.7	45.3	56	2 p. m.	48	2 p. m.	44	6 a. m.	41	8 a. m.	94.
Saturday, 29	30.020	30.112	0 a. m.	29.910	12 p. m.	59.3	57.3	62	12 p. m.	61	12 p. m.	54	0 a. m.	48	0 a. m.	64.

		Dry.	Wet.
Mean for the week	29.857 inches.	54.2 degrees	50.4 degrees.
Maximum for the week	at 9 a. m., Oct. 28th 30.136 "	at 4 pm 23d 69. "	at 4 pm 23d, 60. "
Minimum "	at 2 p. m., Oct. 25th 29.338 "	" 6 am. 27th 34. "	at 6 am 27th, 34. "
Range	.798 "	" " 35. "	26. "

OCTOBER.	WIND. DIRECTION. 7 a. m.	2 p. m.	9 p. m.	VELOCITY IN MILES. Distance for the Day.	FORCE IN LBS. PER SQR. FEET. Max.	Time.	HYGROMETER. FORCE OF VAPOR. 7 a. m.	2 p. m.	9 p. m.	RELATIVE HUMIDITY. 7 a. m.	2 p. m.	9 p. m.	CLOUDS. CLEAR, 0 OVERCAST. 10 7 a. m.	2 p. m.	9 p. m.	RAIN AND SNOW. DEPTH OF RAIN AND SNOW IN INCHES. Time of Beginning.	Time of Ending.	Duration. h. m.	Amount of water	OZONE. 0 10
Sunday, 23	w. s. w.	s. w.	s. w.	225	3½	3 pm	.374	.380	.447	100	55	77	0	2 cu.	10	-----	----	-----	--	0
Monday, 24	w.	n. e.	e.	124	¾	10 pm	.482	.436	.436	100	93	93	10	10	10	4.50 am 10 pm	2 pm 11 pm	9.10 1.00	.19 .01	0 0
Tuesday, 25	e.	w. s. w.	w. n. w.	116	4¾	7.15 pm	.388	.443	.309	100	82	64	10	7 cu.	0	-----	-----	-----	--	0
Wednesday, 26	n. w.	n. w.	n.	338	9¼	10.15 am	.228	.162	.190	76	45	74	0	0	0	-----	-----	-----	--	0
Thursday, 27	w. n. w.	w.	w. s. w.	163	2½	4 pm	.204	.191	.231	100	41	55	0	0	0	-----	-----	-----	--	0
Friday, 28	n. e.	n. e.	e.	93	1¼	0.10 pm	.192	.230	.244	61	51	60	4 cir. cu.	0	10	-----	-----	-----	--	0
Saturday, 29	e.	s. s. e.	s. s. e.	220	7¼	12 m	.321	.505	.523	74	94	94	10	10	10	3.15 am	12 pm	20.45	.37	

Distance traveled during the week	1,279 miles.	Total amount of water for the week	.57 inch.
Maximum force	9¼ lbs.	Duration of rain	1 day, 6 hours, 55 minutes.

DANIEL DRAPER, Ph. D.

Director Meteorological Observatory of the Department of Public Parks, New York.